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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,477

04/21/2006

Jens Uwe Brandt

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EXAMINER

FULLER, ROBERT EDWARD

ART UNIT

PAPER NUMBER

3676

NOTIFICATION DATE

DELIVERY MODE

09/18/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
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Office Action Summary	Application No. 10/595,477	Applicant(s) BRANDT ET AL.	
	Examiner ROBERT E. FULLER	Art Unit 3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the pressure chamber and the separation device which is provided within the displacement pump housing (see claim 22) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Dass (US 7,093,665).

With regard to claim 16, Dass discloses a method for delivering a multi-phase mixture from a well using a displacement pump (130) through which the multi-phase mixture is pumped, comprising, on a pressure side, splitting off a partial liquid flow from a main delivery flow and guiding the split partial liquid flow to a high-pressure side of at

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least one ejector pump (100) arranged on a suction side of the displacement pump as an auxiliary delivery device (see column 3, lines 49-55).

With regard to claim 17, the ejector pump is in the well.

With regard to claim 18, the separation occurs within the pump (130).

4. Claims 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Palmour (US 3,709,292).

With regard to claim 16, Palmour discloses a method for delivering a multi-phase mixture from a well using a displacement pump (28) through which the multi-phase mixture is pumped, comprising, on a pressure side, splitting off a partial liquid flow from a main delivery flow and guiding the split partial liquid flow to a high-pressure side of at least one ejector pump (14) arranged on a suction side of the displacement pump as an auxiliary delivery device.

With regard to claim 17, the ejector pump is in the well.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 18, 20, 22, 23, 25, 26, and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palmour.

With regard to claim 18, Palmour teaches separating the gas and liquid phases in a separator (31), but the separator is not integral with the pump (28). However, it would have been considered obvious to one of ordinary skill in the art, to have made the separation unit integral with the pump, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1993).

With regard to claims 20 and 25, Palmour discloses an additional separator (26).

With regard to claim 22, Palmour discloses a pump installation comprising a displacement pump (28) for delivering multi-phase mixtures, a suction line (16) configured to discharge into a well, and a feed line connecting the pressure chamber of the displacement pump with a high-pressure side of at least one ejector pump (14) arranged on a suction side in a delivery direction of the displacement pump and which guides the separated liquid phase to the ejector pump.

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Palmour fails to disclose the separator and the pump being contained within the same housing. However, it would have been considered obvious to one of ordinary skill in the art, to have made the separation unit integral with the pump, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

With regard to claim 23, the ejector pump (14) is arranged in an area of discharge of the suction line (16) into the well in the delivery direction of the displacement pump.

With regard to claim 26, Palmour discloses a return line (68).

With regard to claim 29, the ejector pump (14) is located within the well.

With regard to claim 30, the ejector pump (14) is at an end of a suction line (16).

7. Claims 19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palmour in view of Skinner et al. (US 4,066,123).

Palmour fails to disclose a short-circuited line for recirculating fluid through the displacement pump unit.

Skinner discloses a pump/separator system (18, 20) for well production having a short-circuited line (23).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have included a short-circuited line within the

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pump/separator system of Palmour, in order to have “improve[d] cleaning of the fluid” (see Skinner, column 2, line 19).

8. Claims 21 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palmour in view of Rivas (US 6,260,627).

Palmour fails to disclose a booster pump.

Rivas discloses a wellbore production system comprising a main pump (14) and a booster pump (44).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have added a further pump (i.e. a booster pump) to the assembly of Palmour, in order to have compensated for head losses inherent in pumping fluids over long distances, and furthermore to have “aid[ed] in the pumping of wellbore fluid and the separation of gas from the wellbore fluid” (see Palmour, column 3, lines 55-58).

9. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Palmour in view of Peleanu et al. (US 2005/0000689).

Palmour explicitly discloses the pump being a plunger pump, but not disclose a screw pump.

Peleanu discloses pumping systems for producing wells, and provides evidence for the functional equivalence of plunger pumps and screw pumps, by stating that pumps typically used in well production applications are “plunger pumps, PCP

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(Progressive Cavity Pumps), ESP (Electrical Submersible Pumps), and 'screw' pumps" (see Peleanu, paragraph 0002, lines 9-11).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced Palmour's plunger pump with a screw pump as examiner hereby takes Official Notice of the functional equivalence of screw pumps and plunger pumps for well production applications, as evidenced by Peleanu.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references provide further examples of systems for producing multi-phase solutions from wells.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT E. FULLER whose telephone number is (571)272-0419. The examiner can normally be reached on Monday thru Friday from 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer H. Gay can be reached on 571-272-7029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shane Bomar/
Primary Examiner, Art Unit 3676
for Jennifer H Gay
Supervisory Patent Examiner
Art Unit 3676

09/11/2008

REF